

Some comments on the paper “On the Effects of External Sensory Input on Time Dilation” by Albert Einstein

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Abstract

Einstein’s famous 1938 experiment to test relativity of time is plagued by too many ambiguities and does not prove anything. Nevertheless, it is a landmark experiment at the foundation of the modern theory of time perception.

1 Introduction

Relativity of time, which is at the heart of many special relativistic paradoxes, is difficult to understand. **First**, we all are brainwashed by Newton [1] at our schooldays. Besides, to **learn** relativity requires a time and effort, and a layman usually lacks both of them. “The active person lives in the world of phenomena and with it. He does not require logical proofs, indeed he often cannot understand them” [2]. Why should we try to change such state of affairs and enforce active persons to understand a bit of modern physics? The reason is simple. Irrationality and ignorance is spreading and proliferating worldwide, and such a situation is very alarming because “a stupid person is more dangerous than a bandit” [3].

But **how** can we explain relativity of time **to** a layman? Einstein himself gave an excellent explanation: “when a man sits with a pretty girl for an hour, it seems like a minute. But let him sit on a hot stove for a minute and it’s longer than any hour” [4].

As a genuine physicist, Einstein performed an experiment to prove this assertion. Unfortunately, he was a theoretician, not experimenter and his experiment is plagued by many uncertainties which impede us to **draw** the above given intuitively appealing conclusion from the experimental data.

2 Pretty girl and relativity of time

Einstein's experiment consists of following [4]. He arranged, through Charlie Chaplin whom he knew personally, a meeting with Charlie's wife Paulette Goddard, the movie star and very pretty woman indeed. When it felt to Einstein **as** if a minute had passed during the meeting with the radiant and delightful Miss Goddard at the Grand Central Oyster Bar, he checked his watch to discover that actually 57 minutes had flied.

Einstein used a chrome waffle iron as a reasonable equivalent of a hot stove, because the woman who cooked for him had forbidden him to get anywhere near the kitchen. He plugged in **the** waffle iron and when it heated up he sat on it dressed. He jumped up in less than a second but it felt to him as if a **good** one hour had passed.

At first sight the experiment is very convincing and conclusive. However, as the **old** wisdom says the first impression is often misleading.

3 Subjectivity in science is dangerous

Although the notion of a hot stove is quite well-defined, we cannot say this about the notion of a pretty girl which is too subjective. And subjectivity in science is dangerous, as the following story with me does confirm.

I was curious were it the beauty which caused the time dilation effect or the proximity of a women and decided to check whether a picture of a beautiful woman can lead to the same phenomenon, thanks God old **masters** left a lot of drawings of beautiful women. I didn't have to go far to find a proper picture. At the home page of the *Southern Cross Review* [5], an on-line magazine where I had found the Einstein paper, there is the picture *Girl with Guitar* by Anders Zorn who was one of Sweden's foremost artists. The girl is quite pretty, albeit naked. There was nobody nearby, except my wife, to ask whether she was beautiful enough to exclude subjectivity. So I called her and asked her opinion. And lo, this cost me a black eye **and** the laptop

broken to pieces.

4 Further problems with the experiment

Einstein gave not enough evidence that the pretty girl effect is a real effect and not just an illusion. For example, if you sit on a hot stove in the presence of a pretty girl, the effect evaporates instantly, so does sometimes the arrival of her husband. It is a grave omission for Einstein not to investigate these effects and clarify the ambiguity.

Neither did he revealed the secret of beauty. Although his fellow scientists tried hard (see Fig.1), this quest for the secret of beauty is still not finished. Most mysteriously, the beauty can emerge in quite unexpected for scientists way, even from their most beloved thing, a sphere (see Fig.2).

There is some empirical evidence that the pretty girl effect can change sign **after** you marry her. That is after years of marital life **you** can feel like sitting on a hot stove in the presence of your beautiful wife. This is really very strange phenomenon, more strange than the constancy of light velocity in different inertial frames. I doubt you **can** explain it.

Einstein mentions this mysterious sign change neither in the paper [4] nor in his other writings, although it is quite clear that this effect and the ambiguities mentioned above **do** undermine completely his explanation of the time dilation.

Neither does Einstein investigate (theoretically or experimentally) the possible influence of a beautiful girl on quantum vacuum, alleged effect which can be of significant intensity and even dangerous. Namely, it was suggested [6] that the presence of a young woman can alter the vacuum polarization nearby thus decreasing the molecular bond strengths which by itself can lead to a spontaneous combustion of materials. Leaving aside a danger of spontaneous combustion of a male experimenter, like the notorious case of the mysterious death of Krook described by Charles Dickens in *Bleak house* [7], particularly disturbing, as far as the Einstein experiment is concerned, is the fact that this effect can mimic a hot stove and thus blur the time dilation effect.

5 Einstein and the perception of time

As we see, Einstein's famous experiment is not without flaws. Nevertheless, **whatever do you think**, Einstein is a great man, the man of tomorrow, if you **want** to know - "while relative time became the de-facto view in physics, the relativity of psychological time is still a matter for debate" [8]. However, despite this debate, **everyone** agrees (see, for example [8, 9]) that Einstein's groundbreaking experiment initiated the interesting field of research. This research is far from being completed. "Although time **is** a concept that attracted and occupied the thoughts of a countless number of thinkers and scholars over centuries, its true nature still remains wrapped in a shroud of mystery" [10].

6 Concluding remarks

There is some **ongoing** mystery surrounding the Einstein's experiment. Although Einstein's pretty girl - hot stove explanation of the time dilation effect is well documented (he gave it to his secretary, Helen Dukas [11]), nobody have ever seen the *Journal of Exothermic Science and Technology* with Einstein's article in it, except Steve Mirsky who reproduced this article in [12]. So we are forced **to** repeat Maxim Gorky's famous question: "was there a boy at all?" [13].

Despite all our **respect** for Steve Mirsky, we think what we have here is an example of unsettled past. It is a common erroneous belief that the past is always fixed in every detail. As was conjectured in [14, 15], it may happen that the past is actually only partly fixed. At every moment of time we have a template of the past that gets incarnated and fixed only under the backword influence of ongoing events. By unveiling the Einstein experiment, Mirsky initiated a template. However, whether this template turns into an undeniable truth, depends on **you**.

Acknowledgments

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Figure 1: “Quest for the Secret of Beauty” by Lado Gudiashvili, 1942.



Figure 2: “Galatea of the Spheres” by **Salvador Dalí**, 1952.